Necessary tools, devices, materials

To connect the CUB5 indicator (hereinafter – CUB5) to the GalileoSky terminal (hereinafter - terminal) one should have:

1. Electrical tools.

Picture 1

2. Set of connecting wires.

Picture 2

3. Windows-based computer with the installed program of configuration of GALILEOSKY terminals – "Configurator". It is recommended to install the latest version of the program from the site http://7gis.ru/support/konfigurator.html

Picture 3

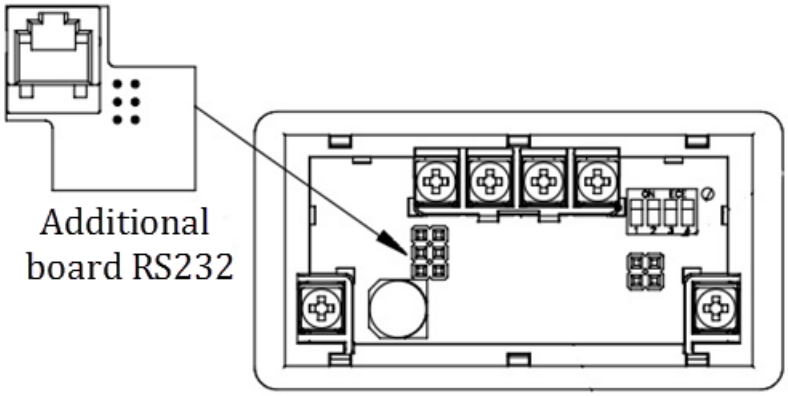
General information

CUB5 – is a segment 8-bit display, which can be connected to the terminal using RS232 interface. It can display current sensors data; CAN bus data, mileage and so on (Pic. 4). Specific displayed parameter is selected in the process of settings of the terminal through the Configurator. Information in the indicator is updated once a second.

Picture 4. Different modifications of CUB5 indicator

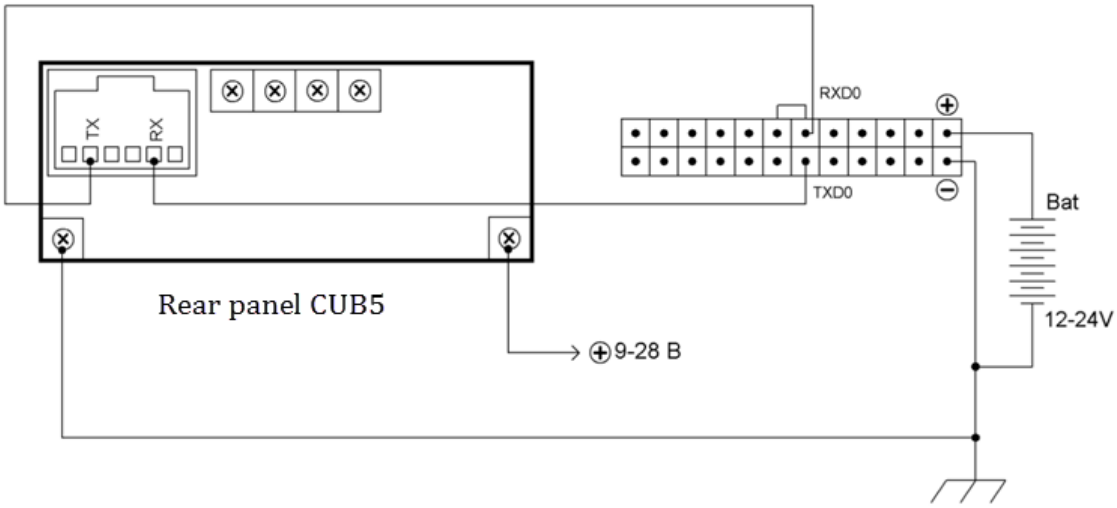
Connection of CUB5 via RS232 interface

Before connecting, make sure that there is an additional card with the connector for the RS232 interface on the backwall of the indicator (Pic. 5).



Picture 5. Checking of availability of additional card

Connection of CUB5 via RS232 interface is carried out in accordance with the scheme of Picture 6.



Picture 6. The scheme of connection of CUB5 to RS232 input

For v1.8.5 or v2.2.8 terminals, which have the second RS232 port, it is possible to use still RXD1 and TXD1 contacts.

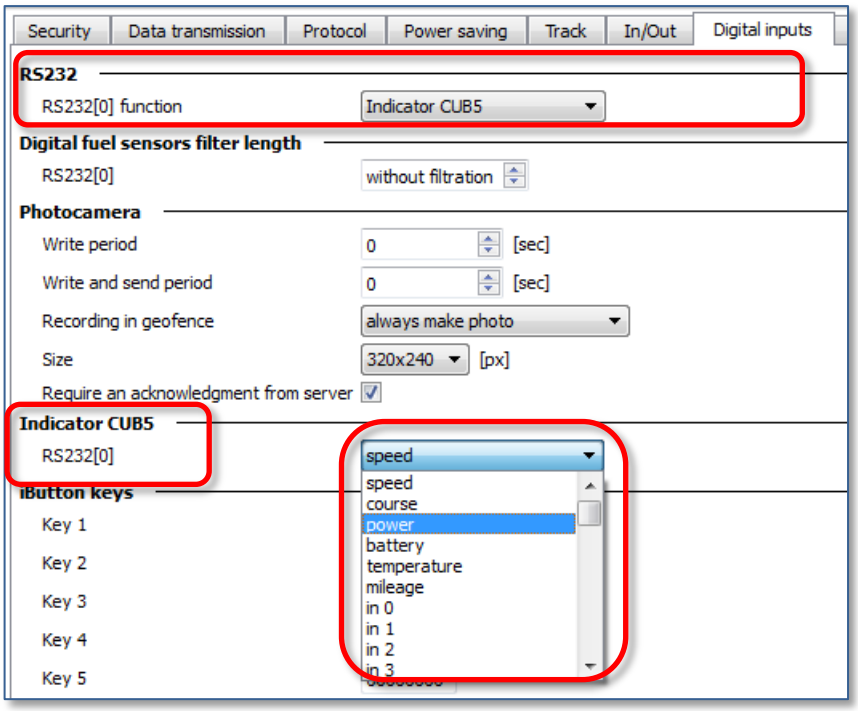
ATTENTION! Grounds (GND) of the terminal and the CUB5 must be connected; RS232 contacts must be connected strictly according to the scheme RX of the CUB5 - TXD0 of the terminal and TX of the CUB5 - RXD0 of the terminal. The CUB5 power supply is provided separately.

Setting of RS232[0] (RS232[1]) input of the terminal to display information on the indicator can be performed in two ways.

1. **Setting via the Configurator** (Pic. 7):

1.1. Go to the "Setting" tab -> "Digital inputs" of the Configurator and select "CUB5 indicator";

1.2. in the CUB5 Indicator block choose the parameter information on which you plan to bring to the CUB5 display;



Picture 7. RS232 input setting in the Configurator

1.3. press "Apply" button;
1.4. go to the "Device" tab of the Configurator and reset the terminal using "Reset" button.

2. **Setting via commands**:
2.1. send *RS2320 7 (or RS2321 7)* command to the terminal to connect the indicator*;*
2.2. send *CUB5* command with the following parameters to the terminal

Command format **CUB5 N0,N1**

Parameters	N0,N1 – parameter number displayed on the indicator connected to RS232[0] (RS232[1]) port Parameters: 0 – speed, accurate within 0.1, [km/h]; 1 – directional angle accurate within 0.1 [°]; 2 – external supply voltage [mV]; 3 – internal accumulator voltage [mV]; 4 – temperature inside the Terminal [°C]; 5 – mileage according to the GPS\GLONASS unit accurate within 0.1, [km]; 6 – input IN0; 7 – input IN1; 8 – input IN2; 9 – input IN3; 10 – RS232[0]; 12 – temperature sensor 0 [°C]; 13 – temperature sensor 1 [°C]; 14 – temperature sensor 2 [°C]; 15 – temperature sensor 3 [°C]; 16 – temperature sensor 4 [°C]; 17 – temperature sensor 5 [°C]; 18 – temperature sensor 6 [°C]; 19 – temperature sensor 7 [°C]; 20 – CAN. Total fuel consumption [l]; 21 – CAN. Tank fuel level accurate within 0.1 [%]; 22 – CAN. Coolant temperature [°C]; 23 – CAN. Engine speed; 24 – CAN. mileage, accurate within 0.1 [km]; 25-39 – CAN8BITR0- CAN8BITR14; 40-44 – CAN16BITR0- CAN16BITR4; 45-49 – CAN32BITR0- CAN32BITR4; 50 – RS485[0]; 51 – RS485[1]; 52 – RS485[2].
Explanation	Settings of parameters display in the CUB5 indicator
Example	Request: CUB5 1,0 Reply: CUB5:RS2320=1,RS2321=0;

2.3. to reset the terminal send *Reset* command.

Make sure the terminal correctly transmits the information to the indicator display: to do this you should visually compare the values shown on the display with the indications which are shown in the "Troubleshooting" tab of the Configurator. There should be a tick in the "RS232[0]" ("RS232[1]") field (Pic. 8):

Picture 8. Checking of matching of displayed data

Connection of the CUB5 to the GalileoSky terminal via RS232 interface is completed; the terminal is ready to operate.